

LISTING OF CLAIMS:

This listing of claims will replace all prior versions, and listing, of claims in the application:

- 1 1. (original) A flexible marking catheter for placement in a selected position
2 in a body using a frameless stereotaxy system, comprising:
3 a flexible catheter body made of a flexible material and having a closed distal end and
4 an open proximal end and sized to removably fit on a frameless stereotaxy system probe such
5 that the catheter remains on the probe as the catheter is positioned in a body using the probe
6 and such that the probe is removable from the catheter without moving the catheter after the
7 catheter is positioned in the body using the probe.
- 1 2. (original) The flexible marking catheter of Claim 1 wherein the catheter
2 body is made of silicone rubber.
- 1 3. (original) The flexible marking catheter of Claim 1 comprising
2 additionally a flange at the open proximal end of the flexible catheter body to facilitate
3 removing the probe from the catheter after the catheter is positioned in the body using the
4 probe.
- 1 4. (original) The flexible marking catheter of Claim 1 comprising
2 additionally length indicia visible on an outer surface of the flexible catheter body indicating
3 distances along the catheter body from the distal end thereof.
- 1 5. (original) The flexible marking catheter of Claim 4 wherein the length
2 indicia indicate centimeter distances along the catheter body from the distal end thereof.
- 1 6. (original) The flexible marking catheter of Claim 5 wherein the length
2 indicia include rings visible around an outer surface of the flexible catheter body at five
3 centimeters from the distal end thereof and at ten centimeters from the distal end thereof and
4 dots visible on the outer surface of the flexible catheter body at one, two, three, four, six,
5 seven, eight, and nine centimeters from the distal end thereof.

1 7. (original) The flexible marking catheter of Claim 6 wherein the length
2 indicia includes a double ring visible around the outer surface of the flexible catheter body at
3 ten centimeters from the distal end thereof.

1 8. (original) The flexible marking catheter of Claim 1 wherein the flexible
2 catheter body is made of a brightly colored material.

1 9. (original) A flexible marking catheter for placement in a selected position
2 in a body using a frameless stereotaxy system, comprising:

3 a flexible catheter body made of a flexible material and having a closed distal end and
4 an open proximal end and sized to removably fit on a frameless stereotaxy system probe such
5 that the catheter remains on the probe as the catheter is positioned in the body using the probe
6 and such that the probe is removable from the catheter without moving the catheter after the
7 catheter is positioned in the body using the probe;

8 a flange at the open proximal end of the flexible catheter body to facilitate removing
9 the probe from the catheter after the catheter is positioned in the body using the probe; and
10 length indicia visible on an outer surface of the flexible catheter body indicating distances
11 along the catheter body from the distal end thereof.

1 10. (original) The flexible marking catheter of Claim 9 wherein the catheter
2 body is made of silicone rubber.

1 11. (original) The flexible marking catheter of Claim 9 wherein the length
2 indicia indicate centimeter distances along the catheter body from the distal end thereof.

1 12. (original) The flexible marking catheter of Claim 11 wherein the length
2 indicia include rings visible around an outer surface of the flexible catheter body at five
3 centimeters from the distal end thereof and at ten centimeters from the distal end thereof and
4 dots visible on the outer surface of the flexible catheter body at one, two, three, four, six,
5 seven, eight, and nine centimeters from the distal end thereof.

1 13. (original) The flexible marking catheter of Claim 12 wherein the length
2 indicia includes a double ring visible around the outer surface of the flexible catheter body at
3 ten centimeters from the distal end thereof.

1 14. (original) The flexible marking catheter of Claim 9 wherein the flexible
2 catheter body is made of a brightly colored material.

1 15. (original) A method of using a flexible marking catheter for placement in
2 a selected position in a body using a frameless stereotaxy system, comprising:
3 providing a flexible marking catheter including a flexible catheter body made of a
4 flexible material and having a closed distal end and an open proximal end and sized to
5 removably fit on a frameless stereotaxy system probe;
6 mounting the flexible marking catheter on a frameless stereotaxy system probe;
7 positioning the flexible marking catheter in the selected position in the body using the
8 frameless stereotaxy system probe and a frameless stereotaxy system to guide the positioning
9 of the flexible marking catheter in the body at the selected position; and
10 removing the frameless stereotaxy system probe from the flexible marking catheter such that
11 the flexible marking catheter remains in the body at the selected position therein after the
12 frameless stereotaxy system probe is removed from the flexible marking catheter.

1 16. (original) The method of Claim 15 wherein the catheter body is made of
2 silicone rubber.

1 17. (original) The method of Claim 15 wherein the flexible marking catheter
2 includes a flange at the open proximal end of the flexible catheter body and wherein
3 removing the frameless stereotaxy system probe from the flexible marking catheter includes
4 holding the flexible marking catheter in position by the flange while removing the frameless
5 stereotaxy system probe from the flexible marking catheter.

1 18. (original) The method of Claim 15 wherein the flexible marking catheter
2 includes length indicia visible on an outer surface of the flexible catheter body indicating
3 distances along the catheter body from the distal end thereof.

1 19. (original) The method of Claim 18 wherein the length indicia indicate
2 centimeter distances along the catheter body from the distal end thereof.

1 20. (original) The method of Claim 19 wherein the length indicia include
2 rings visible around an outer surface of the flexible catheter body at five centimeters from the
3 distal end thereof and at ten centimeters from the distal end thereof and dots visible on the

4 outer surface of the flexible catheter body at one, two, three, four, six, seven, eight, and nine
5 centimeters from the distal end thereof.

1 21. (original) The method of Claim 20 wherein the length indicia includes a
2 double ring visible around the outer surface of the flexible catheter body at ten centimeters
3 from the distal end thereof.

1 22. (original) The method of Claim 15 wherein the flexible catheter body is
2 made of a brightly colored material.

1 23. (original) A method of using a flexible marking catheter for placement in
2 a selected position in a body using a frameless stereotaxy system, comprising:

3 (a) obtaining pre-operative images of a patient's brain to determine the margins of
4 a brain lesion;

5 (b) positioning the patient in a surgical field;

6 (c) registering the position of the patient in the surgical field with the pre-
7 operative images in a frameless stereotaxy system;

8 (d) providing a flexible marking catheter including a flexible catheter body made
9 of a flexible material and having a closed distal end and an open proximal end and sized to
10 removably fit on a frameless stereotaxy system probe;

11 (e) mounting the flexible marking catheter on a frameless stereotaxy system
12 probe;

13 (f) positioning the flexible marking catheter in a selected position in the patient's
14 brain along a margin of the brain lesion using the frameless stereotaxy system probe and the
15 frameless stereotaxy system to guide the positioning of the flexible marking catheter along
16 the margin of the brain lesion based on the pre-operative images;

17 (g) removing the frameless stereotaxy system probe from the flexible marking
18 catheter such that the flexible marking catheter remains in the patient's brain at the selected
19 position therein after the frameless stereotaxy system probe is removed from the flexible
20 marking catheter;

21 (h) cutting off the flexible marking catheter remaining in the patient's brain near a
22 surface of the brain; and

23 (i) removing the brain lesion to expose the flexible marking catheter.

1 24. (original) The method of Claim 23 wherein the catheter body is made of
2 silicone rubber.

1 25. (original) The method of Claim 23 wherein the flexible marking catheter
2 includes a flange at the open proximal end of the flexible catheter body and wherein
3 removing the frameless stereotaxy system probe from the flexible marking catheter includes
4 holding the flexible marking catheter in position by the flange while removing the frameless
5 stereotaxy system probe from the flexible marking catheter.

1 26. (original) The method of Claim 23 wherein the flexible marking catheter
2 includes length indicia visible on an outer surface of the flexible catheter body indicating
3 distances along the catheter body from the distal end thereof.

1 27. (original) The method of Claim 26 wherein the length indicia indicate
2 centimeter distances along the catheter body from the distal end thereof.

1 28. (original) The method of Claim 27 wherein the length indicia include
2 rings visible around an outer surface of the flexible catheter body at five centimeters from the
3 distal end thereof and at ten centimeters from the distal end thereof and dots visible on the
4 outer surface of the flexible catheter body at one, two, three, four, six, seven, eight, and nine
5 centimeters from the distal end thereof.

1 29. (original) The method of Claim 28 wherein the length indicia includes a
2 double ring visible around the outer surface of the flexible catheter body at ten centimeters
3 from the distal end thereof.

1 30. (original) The method of Claim 23 wherein the flexible catheter body is
2 made of a brightly colored material.

1 31. (original) The method of Claim 23 wherein obtaining pre-operative
2 images of a patient's brain includes obtaining pre-operative images of a patients brain using a
3 medical imaging system selected from the group of medical imaging systems consisting of
4 magnetic resonance imaging systems and computed tomography imaging systems.

1 32. (original) The method of Claim 23 wherein positioning the flexible
2 marking catheter in a selected position in the patient's brain along the margin of the brain

3 lesion includes positioning the flexible marking catheter in the selected position in the
4 patient's brain at a depth such that the distal end of the positioned marking catheter is
5 positioned at a depth in the brain corresponding to a depth of the brain lesion at the selected
6 position.

1 33. (original) The method of Claim 23 wherein steps (d)-(h) are repeated
2 such that a plurality of flexible marking catheters are positioned in the patient's brain along
3 the margin of the brain lesion to define the margin of the brain lesion and wherein removing
4 the brain lesion includes removing the brain lesion to expose all of the plurality of flexible
5 marking catheters thus positioned.